

~~a frame positioned adjacent a cleanroom wall;
a plurality of cassette storage shelves supported by
the frame; and~~

~~a cassette mover to carry a cassette between the
shelves and a docking station, the cassette mover including
a support member positioned in front of the shelves and
movable in a path adjacent to the shelves, and an end
effector configured to engage the cassette, the end effector
movably connected to the support member, the cassette mover
being supported by the frame, the docking station including
an opening in the cleanroom wall, the opening being adapted
to have a substrate transferred therethrough.~~

12/ A2
5. (Amended) The apparatus of claim 1, wherein the frame
substantially fits below the docking station.

6. (Amended) The apparatus of claim 1, wherein a lower end
of the support member is slidably connected to the frame.

14. (Amended) An apparatus for storing cassettes,
comprising:

~~a frame positioned adjacent a cleanroom wall;
a plurality of cassette storage shelves supported by
the frame, and positioned adjacent the cleanroom wall above
a plurality of cassette docking stations; and~~

~~a cassette mover to carry a cassette between the
shelves and the docking stations, the cassette mover
including a support member positioned in front of the
shelves and movable in a plane parallel to the wall, and an
end effector configured to engage the cassette, the end
effector slidably connected to the support member, the
cassette mover being supported by the frame, the docking~~

~~11~~ ~~A3~~ stations each including a respective opening in the cleanroom wall, the openings being adapted to have a substrate transferred therethrough.

~~11~~ ~~A4~~ 16. (Amended) The apparatus of claim 15, wherein adjacent vertical columns of shelves are separated by a vertical channel, and the cassette mover is configured to transport a cassette to a selected support shelf by moving the cassettes vertically through the channel to position the cassette substantially adjacent and above the selected support shelf, and then horizontally to position the cassette over the selected support shelf.

17. (Amended) A semiconductor processing station, comprising:

- a processing system to perform a fabrication step on a substrate;

- an interface wall separating the processing system from a cleanroom;

- a docking station located in the cleanroom to support a cassette;

- an opening in the interface wall;

- a wafer transfer robot to transfer the substrate through the opening between the docking station and the processing system;

- a loading platform located in the cleanroom adjacent the docking station; and

- a cassette stocker located in the cleanroom, the cassette stocker including,

- i) a frame positioned adjacent the interface wall,
- ii) a plurality of shelves supported by the frame and aligned in a vertical column above the docking station, and

iii) a cassette mover to carry a cassette between the shelves, the loading platform, and the docking station, the cassette mover including a support member positioned in front of the shelves and movable in a path adjacent to the shelves, and an end effector slidably connected to the support member and configured to engage the cassette, the cassette mover being supported by the frame.

18. (Amended) A method of operating a processing station, comprising:

storing a plurality of cassettes on a plurality of cassette storage shelves supported by a frame positioned adjacent a cleanroom wall, the shelves being positioned above a docking station;

carrying one of the cassettes to the docking station with a cassette mover supported by the frame;

removing a substrate from the cassette;

transferring the substrate through an opening in the cleanroom wall; and

returning the cassette to the cassette storage shelves with the cassette mover.

Add new claims 19-22 as below.

19. (New) The apparatus of claim 1, wherein the shelves are secured to the frame via at least one vertical post.

20. (New) The apparatus of claim 1, further comprising a loading station being adapted to have a cassette placed thereon manually or by a cassette handling device other than the cassette mover.